

SMCG Plastic-Encapsulate Diodes

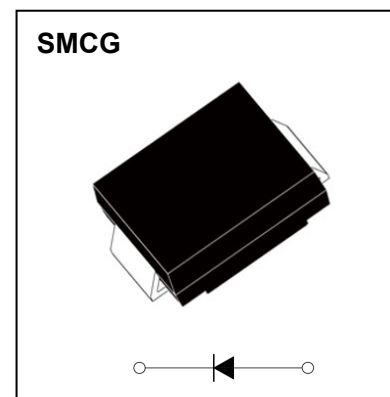
General Purpose Rectifier

Features

- I_O 5A
- V_{RRM} 50V-1000V
- Low forward voltage drop
- High surge current capability
- Glass passivated chip junction

Mechical Data

- Case: JEDEC DO-214AB molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	S5					
				A	B	D	G	J	K M
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	200	400	600	800 1000
Maximum RMS Voltage	V_{RMS}	V		35	70	140	280	420	560 700
Maximum DC Blocking Voltage	V_{DC}	V		50	100	200	400	600	800 1000
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_L=75^\circ\text{C}$	5					
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	150					
Junction Temperature	T_J	$^\circ\text{C}$		-55~+150					
Storage Temperature	T_{STG}	$^\circ\text{C}$		-55 ~ +150					

Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition	Max
Peak Forward Voltage	V_{FM}	V	$I_{FM}=5.0A$	1.1
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$ 5
	I_{RRM2}			$T_a=125^\circ\text{C}$ 150
Reverse Recovery Time (Typical)	T_{rr}	us	$I_F=0.5A$ $I_R=1A$ $I_{RR}=0.25A$	2.0
Juction Capacitance (Typical)	C_j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C.	30
Thermal Resistance (Typical)	$R_{\theta JA}$	$^\circ\text{C/W}$	Between junction and ambient	50
	$R_{\theta JL}$		Between junction and lead	17
	$R_{\theta JC}$		Between junction and case	15

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

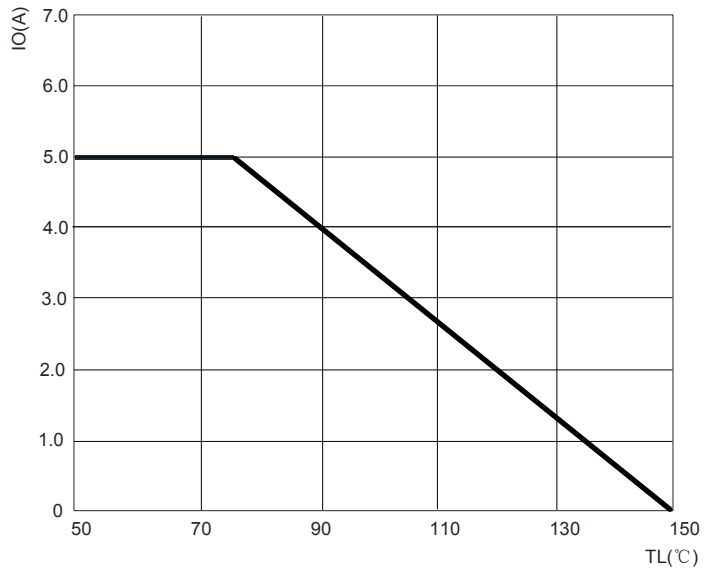


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT



FIG.3: TYPICAL FORWARD CHARACTERISTICS

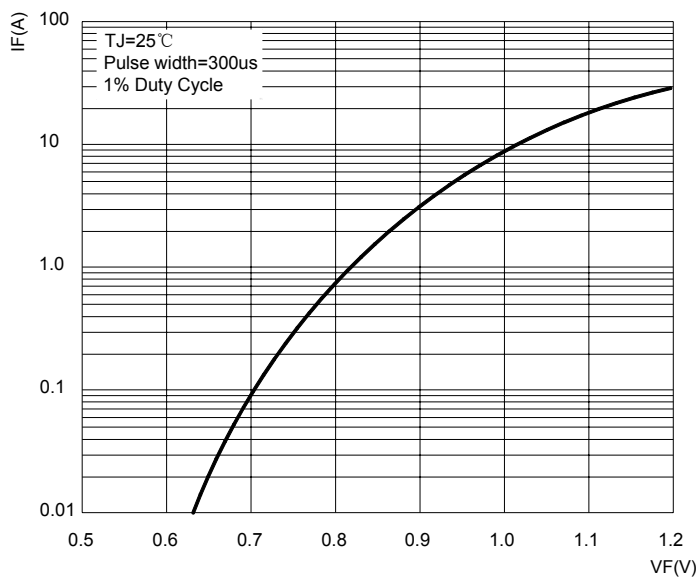
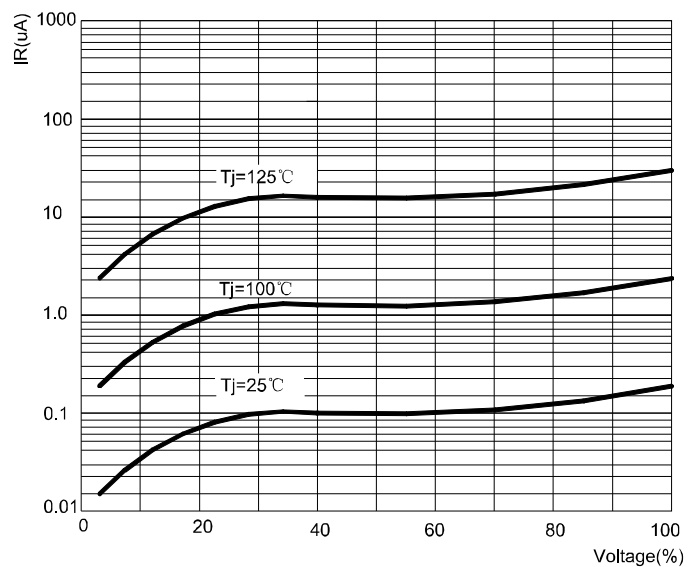
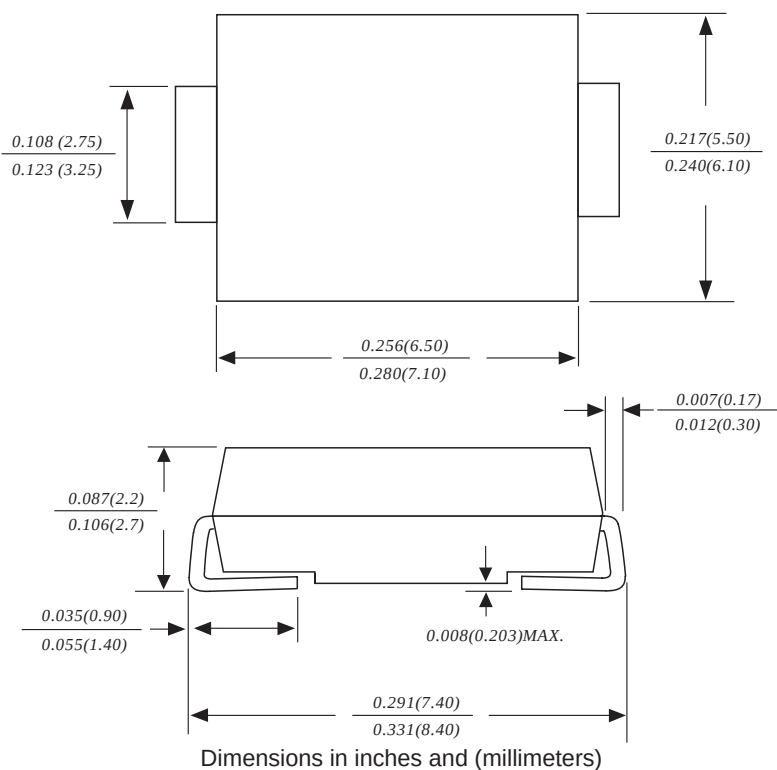


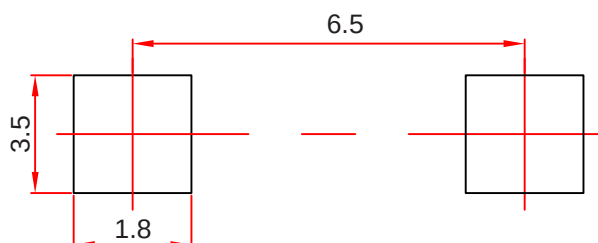
FIG.4: TYPICAL REVERSE CHARACTERISTICS



SMCG Package Outline Dimensions



SMCG Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Ordering Information

Part Number	Package	Shipping Quantity
S5A-S5M	SMCG	3000/tape&Reel

Marking Diagram



X: From A To M

Reel Taping Specifications For Surface Mount Devices–SMCG

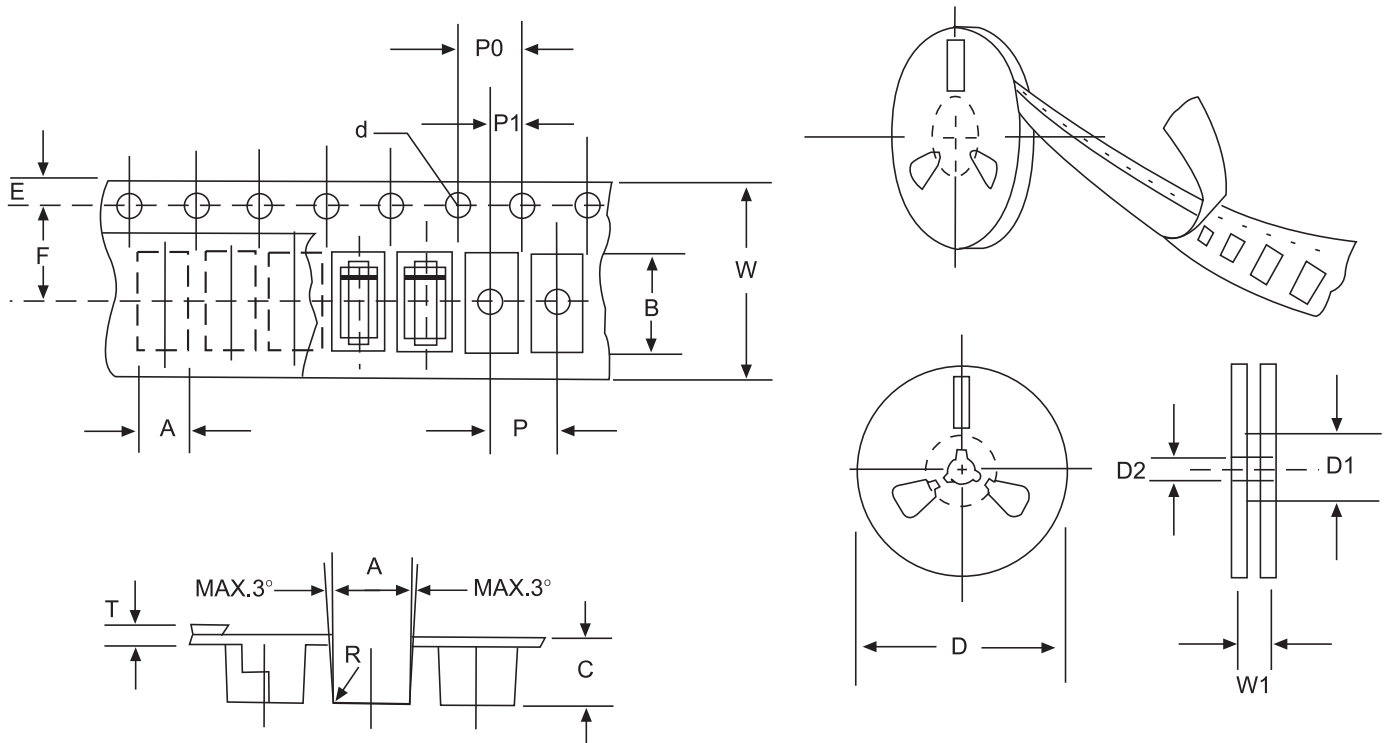


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMCG mm(inch)
Carrier width	A	6.05±0.1(0.238±0.004)
Carrier length	B	8.31±0.1(0.327±0.004)
Carrier depth	C	2.70±0.1(0.106±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330±2.0(13±0.079)
Reel inner diameter	D1	75±1.0 (2.95 ±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Sprocket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	7.65±0.05(0.301±0.002)
Punch hole pitch	P	8.0±0.1(0.315±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Total tape thickness	T	0.3±0.1 (0.012±0.004)
Tape width	W	16.0±0.2(0.630±0.008)
Reel width	W1	24.0±2.0(0.945±0.079)

NOTE: Devices are packde in accordance with EIA standard RS-481-A and specification given above.